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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,358	12/09/2003	Alexander P. Routberg	OR696-71036	4414
32009	7590	05/03/2005	EXAMINER	
BRADLEY ARANT ROSE & WHITE LLP 200 CLINTON AVE. WEST SUITE 900 HUNTSVILLE, AL 35801			VO, TUYET THI	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/731,358	Applicant(s) ROUTBERG ET AL.	
	Examiner Tuyet Vo	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/09/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5-9, 12, 14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Chism Jr. et al. (US Pat. 6,229,720), hereinafter Chism.

Regarding claims 1, 2 and 16, like claim invention, Chism discloses a plasma generation system and method as well (10), comprising:

a plasma generator (30);

a feed system comprising a plurality pneumatic feed holes/devices in ring (35) that supply plasma-forming gas to the plasma generator;

an alternating current power source that powers the plasma generator (Abstract); and

a plurality of electrodes for heating the gas in the plasma generator to form plasma.

Regarding claims 5 and 6, Chism further discloses the pneumatic feed holes supplies the plasma-forming gas at a tangential angle to the interior of the plasma generator, wherein the holes create as a flow air/layer of cooling gas adjacent to the interior of the plasma generator (col. 3, lines 53-57).

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Regarding claims 7-9, 12 and 14, Chism also discloses the alternating current power source, operated at 60 Hz, comprises a multi-phase transformer that connects each electrode to a conventional alternating current utility network (col. 1, lines 65-67) and where the three-phases of the transformer, arranged in wye configuration, is equal to the number of electrodes (col. 3, lines 39-41 and col. 4, lines 23-26).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chism.

Chism discloses substantially the claim invention as noted above except for the multi-phase transformer having six phases or the multi-phase transformer arranged in wye polygon configuration. Since six phases transformer arranged in wye polygon is well known in the art for satisfying any application required a particular a current as well as a voltage provided at each output winding terminal of transformer. Such implementation is considered as a routine skill in the art.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chism in view of Wickramanayaka et al. (US Pat. 6,462,482), hereinafter Wickramanayaka.

Chism discloses substantially the claim invention as noted above except for the alternating current power source is connected to the plasma generator through at least one separation filter.

Wickramanayaka discloses a plasma generating/processing system (Figs. 1 and 2) having alternating current sources (29, 31) to power electrodes deposited within a plasma chamber/reactor (13) for generating plasma (col. 7, lines 10-40), wherein the alternating current

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power source is connected to the plasma generator/reactor through at least one separation filter (33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an filter as taught by Wickramanayaka into the Chism plasma generator in order to prevent the damage to the AC power supply source due to a high frequency AC current associated between the AC power source and corresponded electrodes.

Allowable Subject Matter

6. Claims 3, 4 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior fails to establish the plurality of pneumatic feed devices comprise a plurality of pneumatic feed rings that are located in the interior of the plasma generator as required in claim 3. The prior art also lacks to support a multi-phases transformer is arranged in a wye-double zigzag configuration as required in claim 10.

Citation of pertinent prior art

8. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Owen (US Pat. 6,169,674) discloses transformer, system and method to control harmonic distortion.

Chism, Jr. et al. (US Pat. 6,781,087) discloses three-phase plasma generator having adjustable electrodes.

Correspondence

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 571 272 1830. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571 272 1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.


Tuyet Vo

Primary Examiner

April 29, 2005